Solution Portfolio

Back-end Supply chain Solution

OEM

Supply Chain Analytics (powered by AI/ML)
- Delivery Risk Assessment
- Predictive Quality
- Material Cost Optimization
- Production Capacity Analytics
- Supplier Performance Benchmarking

End-to-End Supply Chain Monitoring
- Control Tower Dashboard

Intelligent Supply Chain Asset Management
- Mold Auditing
- Mold Requirement Optimization
- Maintenance Reporting

Collaboration
- External Solution Integration(Open API): ERP, Procurement, Maintenance
- Delivery Logistics System Integration
- Collaboration Solution: Design, Plan, Inventory, Maintenance

Supplier
- Production Planning
- Production Execution (Inventory, Quality)
- Predictive Maintenance (Equipment & Tooling)
- Digital Twin

Supplier Sourcing Platform

Unlike open manufacturing marketplaces(ex, Xometry, Fast Radius), the eMoldino Sourcing Platform provides:
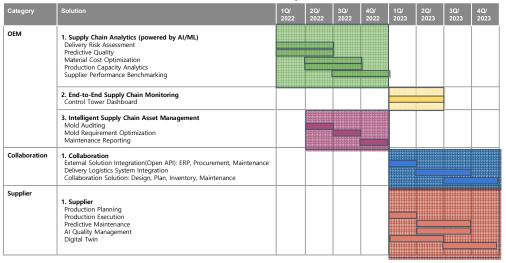**For OEM, private services to source the best suitable suppliers using eMoldino's Data Hub and Intelligence**
For Supplier, opportunity to expose to other business potential OEMs

- Supplier Sourcing Portal
- AI Sourcing Engine
- Supplier Management

Company data: OEM/Supplier/Toolmaker
Part data
Tool/Equipment data
Performance data
Market Intelligence data

Solution Roadmap

Category	Solution	1Q/2022	2Q/2022	3Q/2022	4Q/2022	1Q/2023	2Q/2023	3Q/2023	4Q/2023
OEM	**1. Supply Chain Analytics (powered by AI/ML)** · Delivery Risk Assessment · Predictive Quality · Material Cost Optimization · Production Capacity Analytics · Supplier Performance Benchmarking								
	2. End-to-End Supply Chain Monitoring · Control Tower Dashboard								
	3. Intelligent Supply Chain Asset Management · Mold Auditing · Mold Requirement Optimization · Maintenance Reporting								
Collaboration	**1. Collaboration** · External Solution Integration(Open API): ERP, Procurement, Maintenance · Delivery Logistics System Integration · Collaboration Solution: Design, Plan, Inventory, Maintenance								
Supplier	**1. Supplier** · Production Planning · Production Execution · Predictive Maintenance · AI Quality Management · Digital Twin								

솔루션 내재화 및 Upgrade 방안

솔루션 내재화	. Front-end/Back-end Separation
	- Business Logic, Database 등 Back-end 소스는 이몰디노 내부 개발팀에서 전담, 외부 접근 차단
	- Front-end 소스만 외부 개발자와 공유하도록 분리

Microservice로
 	
Solution Upgrade
	. 1단계
	    - File 형태의 소스코드를 Docker 이미지로 배포
	    - Docker container 로 AWS Cloud 에서 실행할 수 있도록 전환
	. 2단계
	    - AWS Kubernetes 환경 구축
	    - Kubernetes 환경에 Microservice 형태의 솔루션을 Docker 형태로 배포
	    - DB는 기존 AWS RDS 유지
	    - AWS MKS(Kafka)를 이용한 Microservice 간 메세지 통신 큐 설정
	    - Istio 를 이용한 Microservice Gateway 구축

Supply Chain Ecosystem (Injection Molding)

eMOLDiNO

DESIGN COLLABORATION

PLAN COLLABORATION

OEM

금형 제작주문
금형 3D모델
금형 부품정보

ERP

PRO-CUREMENT

수요/계획
재고 정보
불량 내역

구매 주문

구매 주문
품질 정보

금형제작 내역

**eMoldino
Solution Platform**

ANALYTICS
실시간 외주생산현황 모니터링
납기준수 리스크 관리
공급업체 성과평가

ANALYTICS
금형 사용현황
금형 자산 수명주기 예측
불량품/불량 원인 진단 리포트

부품생산 내역
검사 데이터 (불량 내역)

Supply Chain Applications

AI/ML Driven Analytics

Collaboration Infra

Mold Data Hub

ANALYTICS
생산공정 최적화
금형 예측정비
품질 리스크 예측

Tool Maker (Mold Maker)

PLM

금형 3D모델
금형 부품정보

유지보수정보

EAM

Supplier (Molder)

부품생산 공정데이터
(SC/CT/온도/입력/위치)

MAINTENANCE COLLABORATION

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eMoldino Supply Chain Applications

Global End-to-End Visibility
- Dashboard
- Mobile Apps
- Augmented Reality
- Blockchain Track & Trace

Sense → **Decide** → **Respond**

Factory
- IOT Sensor
- SCADA, OPC-UA
- Historians

Digital Signals

Real-time Monitoring
- Control Tower Dashboard
- Asset, Production Monitoring
- Anomaly Detection

Analytics & Deep Learning
- Supply Chain Risk Analytics
- Production Capacity Analytics
- Tooling Requirement Optimization
- Supply Network Optimization

Supply Chain & Manufacturing
- Supply Chain Collaboration
- Strategic Supplier Sourcing
- Digital Twin
- Equipment/ Tool Maintenance (AR/VR)

Supply Chain Ecosystem
- Network Intelligence
- External Systems
- Business Partners

Supply Chain Data Hub
- Semi-Structured/ Time Series Data — Machine/ Sensor Data
- API
- Structured/ Relational Data — Enterprise IT Systems

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